Channel Mitigation Monitoring Sheets I, II, III, AND IV

Monitoring Data Record

Project Title: I-540 Northern Wake Expressway (R-2000AB) COE Action ID: 200021863

Stream Name: UT to Kit Creek DWQ Number: 030918
City, County and other Location Information: Wake County, Site 6 (Sta.10+41 to 12+76_YRPA-)

Date Construction Completed: March 2005
Monitoring Year: (2) of 5
Ecoregion: 8 digit HUC unit 03030002
USGS Quad Name and Coordinates:
Rosgen Classification:
Length of Project: 1,299' Urban or Rural: Rural Watershed Size:
Monitoring DATA collected by: M. Green and J. Young Date: 3/14/07
Applicant Information:
Name: NCDOT Roadside Environmental Unit
Address: 1425 Rock Quarry Road Raleigh, NC 27610
Telephone Number: (919) 861-3772 Email address: mlgreen@dot.state.nc.us

Consultant Information:
Name:
Address:
Telephone Number: Email address:

Project Status: Complete

Monitoring Level required by COE and DWQ (404 permit/ 401 Cert.): Level (**1**) ~~2~~ ~~3~~
Monitoring Level 1 requires completion of *Section 1, Section 2 and Section 3*
Permit States: NCDOT shall perform the following components of Level I monitoring twice each year for the 5 year monitoring period (summer and winter): Reference photos, plant survival, and visual inspection of channel stability. If less than two bankfull events occur during the first 5 years, NCDOT shall continue monitoring until the second bankfull event is documented. The bankfull events must occur during separate monitoring years. In the event that the required bankfull events do not occur during the 5 year monitoring period, the USACE, in consultation with resource agencies, may determine that further monitoring is not required.

Section 1. PHOTO REFERENCE SITES
(Monitoring at all levels must complete this section)

Total number of reference photo locations at this site:
5 photo point locations, 2 photos taken at each location
Dates reference photos have been taken at this site: 9/12/06, 3/14/07

Individual from whom additional photos can be obtained (name, address, phone):

Other Information relative to site photo reference:

If required to complete Level 3 monitoring only stop here; otherwise, complete section 2.

Section 2. PLANT SURVIVAL
Attach plan sheet indicating reference photos.

Identify specific problem areas (missing, stressed, damaged or dead plantings):

Estimated causes, and proposed/required remedial action:

ADDITIONAL COMMENTS: Vegetation is dormant at this time. Vegetation noted onsite at the stream relocation at permitted Site 6 includes green ash, black willow, sycamore, cattails, fennel, *Juncus* sp., lespedeza, and various grasses.

If required to complete Level 1 and Level 2 monitoring only stop here; otherwise, complete section 3.

Section 3. CHANNEL STABILITY

Visual Inspection: The entire stream project as well as each in-stream structure and bank stabilization/revetment structure must be evaluated and problems addressed.

Report on the visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. Include a discussion of any deviations from as-built and an evaluation of the significance of these deviations and whether they are indicative of a stabilizing or destabilizing situation.

The stream is mostly stabilized for the second year of monitoring. There is some bank erosion on the left bank at the inlet of the box culvert located at approx. Sta. 12+70 (Photo Point #5 Downstream). The left arm of the 2nd crossvane from the start of the relocation at approx. Sta. 10+50 has eroded (Photo Point #1 Downstream). According to emails between the regulatory agencies and DOT here are the following solutions to these problem areas. The left bank at the inlet of the box culvert will be lined with rip rap. The failed cross vane at approx. Sta. 10+50 will be removed from the channel. The triassic rock located along the channel would make it impossible to re-stabilize this cross vane. The removal of this cross vane should not result in degradation of the relocated channel. There was evidence that a bankfull event had occurred at this stream relocation.

Date Inspected	Sta. 12+70	Sta. 10+50	Station Number	Station Number	Station Number
Structure Type		Crossvane			
Is water piping through or around structure?					
Head cut or down cut present?					
Bank or scour erosion present?	Bank erosion on the left bank	Bank erosion on left arm of crossvane			
Other problems noted?					

NOTE: Attach separate narrative sheets to each monitoring report describing/discussing the overall monitoring results. Include the identification of specific problem areas/channel failures, estimated cause and proposed/required remedial action. This should include a brief discussion of any parameter that has changed significantly from as-built.

UT Kit Creek

Photo Point #1 (Upstream)

Photo Point #1 (Downstream)

Photo Point #2 (Upstream)

Photo Point #2 (Downstream)

Photo Point #3 (Upstream)

Photo Point #3 (Downstream)

Year 2 Winter – March 2007

UT Kit Creek

Photo Point #4 (Upstream)

Photo Point #4 (Downstream)

Photo Point #5 (Upstream)

Photo Point #5 (Downstream)